

REMARKS / ARGUMENTS

Claims 2-19 and 21-23 remain pending in this application. No claims have been canceled or added.

Interview

Applicants wish to thank the Examiner for conducting an interview with the undersigned and Applicants' representative on February 4, 2010. In the Interview Summary mailed February 17, 2010, the Examiner comments that "Applicant and Examiner discussed claim 2 limitations, directed to a packet generating unit, and the limitations reading on McClogie and Chase references" (note "McCloghrie" is inadvertently misspelled as "McClogie"). With respect to the phrase "the limitations reading on McClogie and Chase references", it is pointed out that the undersigned and Applicants' representative stressed during the interview that the limitations of claim 2 do not read on McCloghrie and Chase. The following includes the substance of that which was discussed during the interview.

Claim Amendments

The claims have been amended to correct a minor informality in that the word "compose" has been changed to "identify". Furthermore, the claims have been amended to remove the phrase "wherein the first VPN on L2 is interconnected to the

plurality of VPNs in the second network” which was added by an amendment filed on May 1, 2008. Since claims without this phrase have been previously considered by the Examiner, no new issues are believed to be raised. These amendments to the claims were discussed with the Examiner during the interview on February 4, 2010. Entry of these amendments is hereby requested.

35 U.S.C. § 103

Claims 2-19 and 21-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCloghrie et al (U.S. Patent No. 6,035,105) in view of Chase et al (U.S. Patent No. 6,081,524). These rejections are traversed as follows.

Claim 2, for example, is directed to:

A packet communication apparatus for transmitting a packet from a first network comprising a first Virtual Private Network (VPN) to a second network comprising a plurality of VPNs, wherein the packet includes a destination Internet Protocol (IP) address Layer 3 (L3) or higher, and a first VPN identifier on Layer 2 (L2) used to identify the first VPN in the first network, said packet communication apparatus comprising:

a packet generating unit which generates a second VPN identifier on L2 used to identify one of the plurality of VPNs in the second network based on the destination IP address on L3 and the first VPN identifier on L2; and
a transmitter which transmits a packet having added thereto said second VPN identifier on L2,
wherein the first VPN on L2 is interconnected to the plurality of VPNs in the second network.

As pointed out to the Examiner during the interview, the second VPN identifier on L2 which is used to identify one of the plurality of VPNs in the second network is generated, by the packet generating unit, based on the destination IP address on L3 and the first VPN identifier on L2. This makes it possible to avoid a conflict in a

situation that multiple VPNs in the second network have the same IP address while also providing added security. Thus, the first VPN identifier is used along with the destination IP address to determine the second VPN identifier.

In the prior art, as shown in Fig. 4 of the corresponding publication, U.S. 2004/008706, (the '706 publication), the layer 2 header is eliminated in step 202 and is not added again until step 205. Therefore, while the packet is routed based on its IP header, as shown in steps 203 and 204, it is in a less secure state as it is mixed with packets of other networks in the router (see [0015] of the '706 publication). On the other hand, according to the claimed invention, as shown in Fig. 5 for example, the second VPN identifier is determined based on the first VPN identifier and the destination IP address (step 212). The layer 2 header is eliminated in step 213 and a new layer 2 header is added at step 214 before the packet is transmitted to the route by the switch as shown in step 215. In addition to the added security, this makes it possible to accurately route the packet to the appropriate destination in the case that multiple VPNs have the same IP address in the second network.

None of the cited references disclose or suggest the above-mentioned features of claim 2. McCloghrie et al only disclose layer 2 information. Chase et al disclose a conventional router in which a packet has its layer 2 frame stripped off as it is forwarded to the VPN A (similar to steps 202 - 204 of Fig. 4 of the present application)(see column 8, lines 13-16). Within VPN A, the layer 3 address is used to make routing decisions (see column 8, lines 16-18 of Chase et al). Discarding of the Layer 2 information and then using the layer 3 information with a routing table to

Thus, since Chase et al do not use the layer 2 information along with the layer 3 information in order to make a routing decision, Chase et al cannot accurately route a packet in a network in which multiple VPNs share the same IP address. In addition, Chase et al cannot provide the security within the router as that provided by the presently claimed invention. As such, it is submitted that the pending claims patentably define the present invention over the cited art.

In view of the foregoing, Applicants respectfully request that a timely Notice of Allowance be issued in this case. Please charge any shortage of fees due in connection with the filing of this paper, or credit any overpayment of fees, to Deposit Account 50-1417.

MATTINGLY & MALUR, P.C.

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